



HELLENIC  
AIR FORCE



# Hellenic Air Force Academy

Briefing





# Hellenic Air Force Academy

Establishment in 1931

# Aim & Mission



The Hellenic Air Force Academy (HAFA) is one of the first military aviation academies in the world. It was **founded on the 6<sup>th</sup> September 1931** and commenced its operation in December 1931 with a common educational program for the Hellenic Army and Hellenic Naval Air Force.

## Aim

HAFA's aim is to produce highly educated and competent officers for the Hellenic Air Force (HAF) with leadership and moral qualities, to offer knowledge and promote research pertinent to the Aeronautical Science and Technology and to support the HAF operational needs with the available materiel and personnel

## Mission

- ❑ **To produce and impart knowledge to the air cadets** via research and instruction pertinent to the Aeronautical Science and Technology and the branches of humanities, natural and applied sciences
- ❑ **To develop the military virtues and ethics** needed for the HAF officers with a military and aviator's conscience, and to offer higher education and training, social, cultural and political education, and the necessary qualifications to make them able leaders with a sound scientific and vocational grounding
- ❑ **To organise postgraduate programs of studies** independently or in collaboration with other Higher Education Institutes **and to carry out scientific research** in fields of interest of the HAF and the Hellenic Armed Forces



Hellenic Air Force Academy:  
Dekeleia AFB – Current premises

# Organisation | Education & Training Provided



HAFAs are Military Institutes of Higher Education providing education and degrees in Aeronautical Sciences, which are comparable to universities' education and degrees. HAFAs are structured in **one faculty** – «**Department of Aeronautical Sciences**» with majors:

1. Pilot
2. Aeronautical Engineering
3. Telecommunications and Electronics Engineering
4. Infrastructures Engineering
5. Air Defence Controllers
6. Logistics
7. Cybersecurity
8. Meteorology
9. Administrative

HAFAs' operation is postulated by the Hellenic Republic Law 3187/2003 and the applicable statutory legislation. The supervision of the Hellenic Air Force Academy is exercised in his capacity by the Minister of the Hellenic Ministry National Defence (HMoND) via the Hellenic Air Force General Staff (HAFGS).

## Accreditation

HAFAs are accredited by the **Hellenic Quality Assurance & Accreditation Agency** (HQA) ([www.hqaa.gr](http://www.hqaa.gr)) in accordance with the Hellenic Legislation and in compliance with the applicable European and International standards.

# Academic education



## Officer Specializations



**Four year studies with an average of 3.500 hours of academic education**





# Academic staff - faculty

HAFA academic faculty and military teaching staff comprises:

- ❖ Academic Faculty Staff (AFS), i.e. Professors, Associate Professors, Assistant Professors and Lecturers,
- ❖ Special and Laboratory Teaching staff,
- ❖ Academic Teaching staff under contractual status,
- ❖ Academic Military Teaching staff under contractual status
- ❖ Military Instructors
- ❖ Flight training instructors

# Academic divisions

There are **nine academic Divisions at HAFA**, all pertaining exclusively to the academic education:

1. Division of Leadership - Management, Human Sciences and Physiology.
2. Division of Mathematics and Natural sciences
3. Division of Aerodynamics and Flight Mechanics
4. Division of Mechanical Engineering, Material Technology, Production Organisation
5. Division of Aeronautical Engineering, Technical Mechanics, Construction Tests – Infrastructure Works
6. Division of Informatics and Computers
7. Division of Thermodynamics, Propulsive and Energetic Systems
8. Division of Electronics, Electric Power, Telecommunications
9. Division of Automatic Control, Aerospace Technology, Defence Systems and Operations



# Academic education facilities



Administration premises



General View



Library



Auditorium  
"Lt. Nikolaos Sialmas"



Classroom premises



Dormitories

# Laboratories



- Aircraft Systems Laboratory
- Materials Technology Laboratory
- Telecommunication Laboratory
- General Electronics Laboratory
- Microprocessors Laboratory
- Physics Laboratory
- Aerodynamics laboratory/ Aeronautics Laboratory
- Propulsion Systems and Thermodynamics Laboratory



Propulsion Systems  
Laboratory



Aerodynamics Laboratory



Aeronautics Laboratory



Materials Technology  
Laboratory



# Athletic facilities



Indoor gym



Stadium



Tennis court



Basketball/  
Volleyball court



Outdoor swimming pool



Weigh lifting hall

# Scientific research

## *Mechanical and aerospace engineering fields*



- ✓ Flight Testing - Planning, risk assessment and mitigation studies, monitoring, data analysis.
- ✓ Aerodynamics - Applied & Computational (Sound / Shock / Ultrasonic) for the calculation of aerodynamic performance of aircraft, helicopters, missiles, unmanned aerial vehicles (UAVs) & micro-aircraft (MAV).
- ✓ Aerodynamics of Design - Aircraft, Helicopters, Missiles, Unmanned Aerial Vehicles (UAVs) & Micro-Aircraft Vehicles (MAVs).
- ✓ Computational Fluid Mechanics & Aeronautics (CFD & CAA) –
- ✓ Renewable Energy Sources - investigation and analysis of energy efficiency and energy sources of units, investigation of the use of unit waste as energy sources, etc.
- ✓ Mechanical, electrochemical and tribological properties of ceramic and metal-ceramic coatings
- ✓ Additive manufacturing treatments.
- ✓ Failure studies, experimental fracture-correlation with choice of materials.
- ✓ Surface treatment of materials (laser beam treatments, thermal spray coatings, electrolytic coatings)
- ✓ Aircraft design, Design of non-conventional aircraft.
- ✓ Study of mechanical behaviour of composite and intelligent materials.
- ✓ Non-linear response of structures in thermomechanical fields.
- ✓ Fault tolerance analysis of complex aircraft components.
- ✓ Non-linear analysis of metal structures.
- ✓ Interoperability of conventional and alternative fuels, in line with NATO's single fuel policy.
- ✓ Design - Development of Environmental / Energy Infrastructures in Armed Forces facilities.
- ✓ Energy Management - Application of relevant standards in Energy Facilities.
- ✓ Study of performance and environmental behaviour of Gas Turbines & Piston Engines.
- ✓ Monitoring the operation and diagnosis of failures of Gas Turbines & Piston Engines.
- ✓ Technical-economic evaluation of Aircraft fleet management.

# Scientific research

## *Telecommunications, electronics and computer science fields*



- ✓ Micro / nano-electronics, optoelectronic, (nano) photon devices and fiber optic devices for applications in sensors, information processing, signal processing, telecommunications, biomedical technology, energy and monitors.
- ✓ Applied and computational electromagnetism for applications in the analysis of electromagnetic interference, design and optimization of antennas / antennas and telecommunication links as well as the design and analysis of photonic devices,
- ✓ Telecommunication systems / networks (satellite, wireless, optical).
- ✓ Aircraft electrical and optoelectronic systems and applications in manned and non-manned aircraft.
- ✓ Security of data, information, Networks, Software, Hardware.
- ✓ Secure communication systems based on chaotic cryptography and sealing (image, audio and video). Ability to implement hardware (Arduino, FPGA, smartphones) and software.
- ✓ Big Data Analysis and Visualization.
- ✓ Collection and Analysis of Information from Social Networks (Social Network Analysis & Mining) and Open Source Intelligence (Open Source Intelligence).
- ✓ Design and Implementation of Internet Applications and Smart Apps Applications and in particular Gamification Applications.
- ✓ Design of algorithm visualization architectures in Embedded Systems.
- ✓ Syntactic Recognition of Patterns in Material



# International students since 1962



# Thank you for your attention



Ἄμες Δὲ Γ' ἐσσόμεθα Πολλῶ Κάρρονες...  
*We shall become much better than you...*